Hughes Aircraft
31211

83-02

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 9

In the Matter of	)	
	)	
HUGHES AIRCRAFT COMPANY,	)	ORDER
	)	
Respondent.	)	Docket No. 83-02
	)	
PROCEEDING UNDER SECTION 3013 RESOURCE CONSERVATION AND RECOVERY ACT (42 U.S.C. 6934)	)	

JURISDICTION

The following Order is issued on this date to Hughes Aircraft Company (Respondent), pursuant to the authority vested in the Administrator of the United States Environmental Protection Agency (EPA) by § 3013 of the Resource Conservation and Recovery Act, as amended, (RCRA), 42 U.S.C. § 6934, and redelegated to the Director, Toxics and Waste Management Division, EPA, Region 9.

FINDINGS OF FACT

1. Respondent owns and operates a facility (the facility) located at 500 Superior Avenue, Newport Beach, California.

2. Respondent manufactures micro electronic components at the facility and uses various organic solvents in its production process, including trichloroethylene (TCE).

3. On August 13, 1980, Respondent notified EPA, pursuant to § 3010 of RCRA, 42 U.S.C. § 6930, that it generates, treats, stores and disposes of hazardous wastes at the facility. Respondent submitted a Part A Application on November 7, 1980. Among the hazardous wastes generated on-site are halogenated and non-halogenated spent solvents, including TCE, which are stored in an underground disposal tank.

4. Halogenated and non-halogenated spent solvents, including TCE, are hazardous wastes as defined by § 1004(5) of RCRA, 42 U.S.C. § 6903(5). Halogenated and non-halogenated spent solvents are listed as hazardous wastes at 40 CFR § 261.31. TCE is also a hazardous substance as defined by § 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. § 9601(14).

5. On November 17, 1982, Respondent notified EPA pursuant to § 103(a) of CERCLA, 42 U.S.C. § 9603(a), of releases at the facility of hazardous substances and hazardous wastes into the

environment. Respondent informed EPA that the facility's underground solvent disposal tank had leaked waste solvents, including TCE, into the ground water over an u determined period of time.

6. TCE is used primarily as a metal degreasing agent and is slightly soluble in water. TCE is an anesthetic which depresses the central nervous sytem. TCE has been demonstrated to cause cancer in animals and it has also been shown to be mutagenic in certain laboratory tests. Short term exposure to TCE has been reported to produce liver and kidney damage and central nervous system disturbances in mammals, including humans.

7. EPA has determined in its ambient water quality criteria that 2.7 parts per billion (ppb) of TCE would be expected to produce one additional case of cancer in a population of 1,000,000 [F.R./Vol. 45, No. 231/November 28, 1980/p.79341]. Respondent reports concentrations of TCE in the ground water at the facility as high as 280,000 ppb. This concentration is more than 100,000 times the level determined by EPA to pose a risk of one excess cancer incident in a population of 1,000,000.

8. The State of California has established an action level of 5 ppb for TCE found in drinking water. Using this guideline, the State has forced the closure of drinking water wells in which the concentration of TCE exceeds 5 ppb.

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9. On March 9, 1983, Respondent submitted information to EPA, pursuant to § 104 of CERCLA and § 3007 of RCRA, documenting the release of TCE and other hazardous substances from its solvent disposal tank and the subsequent contamination of the ground water. The information was in the form of studies conducted by contractors. The studies include: analysis of regional hydrogeologic conditions; a preliminary inventory of local ground water users; and analytical results of on-site ground water monitoring.

10. The studies submitted by the Respondent assert, inter alia:

a. Analysis of liquid samples taken from the solvent disposal tank detected the presence of hazardous wastes, including TCE, ethylbenzene, tetrachloroethylene, toluene, trichloroethane, xylene, and dichlorobenzene. [40 CFR § 261.31 - Industry and Hazardous Waste Number F001, F002, F003, F005]

b. A perched water zone occurring beneath the facility has been contaminated with organic compounds which apparently leaked into the subsurface from the solvent disposal tank. The principal hazardous wastes detected in the perched zone are:

Constituents	Concentration (ppb)
TCE	280,000
Ethylbenzene	42,000
1,1,1 trichloroethane	76,000
m,p-xylene	110,000
o-xylene	45,000
Methylene chloride	18,000
Tetrachloroethylene	53,300

1,2-trans-dichloroethylene was also detected in the perched zone.

c. Estimated ground water velocities indicate that the plume of contamination in the perched zone has already moved off-site or will move off-site in the immediate future.

d. A regional ground water system, which underlays the perched zone, has also been contaminated with organic compounds. These compounds, which include many of those detected in samples taken from the solvent disposal tank, apparently leached from the perched zone into tne regional aquifer. The principal hazardous wastes detected in the regional aquifer are:

Constituents	Concentration (ppb)
TCE	254
Tetrachloroethylene	55
Toluene	20
1,1,1 trichloroethane	16

1,1 Dichloroethylene, 1,2 trans-dichloroethylene,

1,1 dichloroethane and benzene were also detected in water samples taken from the regional aquifer.

e. The regional aquifer has been contaminated with chromium and manganese. Concentration levels are as high as 0.25 milligrams per liter (mg/l) chromium and 9.1 mg/l manganese. High chromium levels may be the result of leakage from the solvent disposal tank and percolation to the regional aquifer.

f. Ground water pumped from the regional aquifer system accounts for about 60 percent of water used in the Orange County area.

11. Respondent's studies did not: delineate the extent of ground water contamination on and off-site; determine the extent of the perched zone, on and off-site; determine the physical characteristics of the perched zone and the regional aquifer; or determine the discharge areas of the perched zone and the regional aquifer.

DETERMINATION

Based upon the foregoing Findings of Fact, the Director, Toxics and Waste Management Division, EPA, Region 9 has determined that the presence and release of hazardous waste from Respondent's facility may present a substantial hazard to human

health or the environment.

EPA has further determined that Responden is a current owner/operator responsibile for conducting the actions ordered herein, which are necessary to ascertain the nature and extent of the hazard.

ORDER

Based upon the foregoing Determinations and Findings of Fact, Respondent, Hughes Aircraft Company, is hereby ordered, pursuant to § 3013 of RCRA, as amended, 42 U.S.C. 6934, to submit a proposal to EPA for the sampling, analysis, reporting and monitoring of the hazardous wastes present on or being released from the facility, and to implement such proposal, once approved by EPA. The proposal shall include, but shall not be limited to the following:

1. A plan to determine the physical characteristics of the perched zone and the regional aquifer, including but not not limited to:

   a. transmissivities
   b. storativities
   c. hydraulic conductivities
   d. saturated thicknesses
   e. porosities
   f. geologic descriptions
   g. specific yield
   h. specific storage

2. A plan to describe the hydrogeology of the site and the affected surrounding area, sufficient to characterize the lateral extent of the perched zone and ground water movement, and to determine possible mechanisms of contaminant transport;

3. A plan to determine the vertical and areal distribution of contaminants in both the perched zone and the regional aquifer;

4. A plan to determine the discharge areas of the perched zone and the regional aquifer;

5. Analytical and quality control protocols for the sampling and analysis program, including:

a. adequate sample identification;

b. sample preservation techniques;

c. chain of custody;

d. use of the analytical methods set forth in the attached document EPA Report No. 600/4-82-057;

e. identification of person(s) conducting the sampling and analysis; and

6. A plan for retaining, identifying, maintaining and submitting to EPA upon request splits of all samples taken pursuant to this Order. Identification and maintenance of all split samples shall be in accordance with the protocols specified above (5a, 5b, and 5c).

The proposed plan ordered herein must be submitted by Respondent to Betsy Curnow, Environmental Protection Agency, at the address listed below, within thirty days of the date of this Order. The proposed plan shall be subject to review, modification and approval by EPA.

Respondent shall complete all work, including sample analyses, as set forth in the approved proposed plan within 90 days after receipt of EPA approval of the proposal.

Respondent shall submit a written report describing the data collected and findings made within 120 days after receipt of EPA approval of the proposed plan.

OPPORTUNITY TO CONFER

Under the provisions of the Act, Respondent is entitled to request a conference with EPA. At any conference held pursuant to Respondent's request, Respondent may appear in person and by attorney or other representatives for the purpose of presenting any objections, defenses or contentions which Respondent may have regarding this Order. Any objection, defense or contention which Respondent may make should be in writing, signed and forwarded to the contact person named below on or before the date on which you are required to submit the proposal. The opportunity to confer does not alter the requirement for submittal of the plan within thirty days of the effective date of this Order.

LIABILITY

If EPA determines that Respondent is not able to conduct the activities contained in the approved proposal, c if actions carried out are deemed unsatisfactory, then EPA may conduct such actions deemed reasonable by EPA to ascertain the nature and extent of the hazard. Respondent may then be ordered to reimburse EPA for the costs of such activity pursuant to § 3013(d) of RCRA. In the event Respondent fails or refuses to comply with the terms and provisions of this Order, EPA may commence a civil action, pursuant to § 3013(e) of RCRA, to require compliance with such Order and to assess civil penalties not to exceed $5,000 for each day that Respondent fails or refuses to comply.

It is so ordered on this 18 day of August, 1983. This order shall become effective immediately.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

By: Harry Seraydarian

HARRY SERAYDARIAN
DIRECTOR, TOXICS AND WASTE MANAGEMENT DIVISION

Contact person:

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